

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A vesicle ~~Vesicle~~ for binding a substance, comprising having an artificial membrane ~~containing~~ having amphiphilic molecules~~[[,]]~~ and a pore-forming unit ~~contained in the membrane, in order to allow that permits~~ access to the vesicle interior, and ~~characterised in that the vesicle contains, in the vesicle interior,~~ a binding substance for binding ~~the a~~ substance to be bound, and wherein the binding substance is disposed in the vesicle interior and is substantially unable to diffuse through the pore formed by the pore-forming unit.

2. (Currently amended): A vesicle ~~Vesicle~~ according to claim 1, ~~characterised in that~~ wherein the binding substance is ~~equipped to provide~~ able to form an ionic bond, a hydrogen bridge bond and/or a hydrophobic interaction with said substance to be bound.

3. (Currently amended): A vesicle ~~Vesicle~~ according to ~~any one of the preceding~~ claim~~[[s]]~~ 1 or 2, ~~characterised in that wherein~~ the pore unit ~~contains~~ comprises a protein or fragment thereof, ~~[[a]]~~ said protein being ~~part~~ selected from the group consisting of:
 - a) a transmembrane protein,

- b) a transmembrane protein ~~comprising~~ having an alpha-helical transmembrane structure,
- c) a transmembrane protein comprising ~~having~~ a β -barrel transmembrane structure,
- d) a ~~transmembrane structure~~ protein structural element of a transmembrane protein, and
- e) a protein having a structure that is ~~structurally~~ homologous to a ~~transmembrane structure~~ protein structural element of any one of the proteins according to a), b), c) and/or d).

4. (Currently amended): ~~A vesicle~~ Vesicle according to ~~any one of the preceding~~ claims[[,]] claim 1 or 2, wherein ~~characterised in that~~ the pore unit has an ~~inside~~ pore diameter ~~having a width of more~~ that is greater than 1 nm.

5. (Currently amended): ~~A vesicle~~ Vesicle according to ~~any one of the preceding~~ claims[[,]] claim 1 or 2, wherein ~~characterised in that~~ the pore unit forms an enantioselective pore.

6. (Currently amended): ~~A vesicle~~ Vesicle according to ~~any one of the preceding~~ claims[[,]] claim 1 or 2, wherein ~~characterised in that the vesicle has~~ said binding substance comprises a positively charged oligomer or polymer ~~in the vesicle interior~~.

7. (Currently amended): A vesicle ~~Vesicle~~ according to claim 6, characterised in that wherein said binding substance comprises poly-lysine ~~the vesicle contains polylysine in the vesicle interior.~~
8. (Currently amended): A method of binding a substance ~~Use of a wherein a substance is contacted with the vesicle of claim 1 or 2, according to any one of the preceding claims for binding a substance.~~
9. (Currently amended): The method of binding a substance according to claim 8, ~~wherein Use according to claim 8, wherein~~ the substance to be bound is a nucleic acid.
10. (Currently amended): A method ~~Method~~ of binding a nucleic acid, comprising contacting a ~~which comprises bringing the nucleic acid to be bound into contact with [[a]] the vesicle according to any one of claim[[s]]1 or 2 [[to 7]].~~
11. (Currently amended): A method ~~Method~~ of releasing a nucleic acid, which comprises comprising the steps of:
- a) binding a nucleic acid in a vesicle ~~by a method according to~~ by contacting the nucleic acid with the vesicle of claim 1 or 2, and

AMENDMENT AND RESPONSE TO RESTRICTION
AND ELECTION OF SPECIES REQUIREMENTS
Application No.: 10/588,205

Atty. Docket No.: Q96421

b) then releasing the bound nucleic acid from the vesicle by applying a shear stress to the vesicle and/or dissolving the vesicle and/or by adding a salt.